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FASHIONABLE VAGARIES.

THERE is one thing which we have never been able to understand, and which we believe few can possibly comprehend or explain. It is the vagary of female fashion. Who it is that invents it, and has the knack to maintain it as long as he pleases, and then with equal audacity and success starts something fresh, is all a mystery. The phenomenon is by no means new. A hundred and sixty years ago, the old essayists were at a loss to know how the extravagant oddities of female attire originated, and were so cleverly kept up in spite of torrents of ridicule. Then, as now, a new fashion had its run of a few years, and dropping out of use as mysteriously as it commenced, was followed by something equally preposterous. High-heeled shoes, lofty head-dresses, hair-powder, long and short waists, painting and patching, all had their day. For a time the wearing of hoops, by which a lady could enter a door only sidewise, was a favourite frenzy. The fashion of taking snuff, usually from a pretty circular box with a picture on the lid, was just going out of practice among ladies in our early days. The last lady whom we saw taking a pinch and handing round her box was—

She, the fair sun of all her sex—

Burns's Clarinda! Such a circumstance seems now very absurd; but it was only of a piece with a long catalogue of fashionable vagaries, in which no rational meaning can be discovered.

The world is said to be getting wiser every day. Certainly, there is an abundance of teaching, reading, and lecturing, from which presumably there should be an increase of intelligence. In almost nothing has there been such a signal advance within the last hundred years as in female education. Yet, with all the visible elements of diffused knowledge and thoughtfulness, no one can observe the slightest abatement in the frolics of feminine fashion. Ladies aspire to be social reformers, to be voters at elections, to be members of school-boards, actually to be

doctors; and some think they do not acquit themselves badly. The strange thing is, that, with rare exceptions, the wisest and most accomplished ladies are quite as much the voluntary thralls of Fashion in its more contemptible forms as the less instructed in the sisterhood. There they are like the rest, wearing the grotesquely shaped dresses which remind us of the drolleries of a pantomime.

In these vagaries of Fashion there seems for the time-being to be a kind of mental derangement—perhaps more correctly the prostration of intellect, through a deficiency of moral courage. Forty years ago, the lady part of mankind fell into a mania for wearing dresses with huge shoulders blown up like balloons. It amounted to a purposeless distortion of the person. So everybody said it was. But the avowal made no difference. Sleeves must be made six times larger than they need be. Shoulders must be distorted, rendered positively ugly. It was the Fashion, and that was enough. In due time, when the mania had run its course, the ballooning was given up, and shoulders shrunk to their natural figure. When it was all over, no one ventured to explain how the frenzy had originated, or what was its meaning. On the contrary, as if ashamed of the weakness, the subject was skilfully dropped. Next in the order of this species of feminine dementia, came the crinoline vagary. A petticoat of horse-hair and whalebone was employed to distend the outer dress far beyond the person. It was a resumption of hoops, with the difference, that while hoops expanded sidewise, the crinoline spread out all round. Every woman had the shape of a hand bell, wide at the lower edge, and small above. Gracefulness was out of the question. If the object was to produce a monstrosity, it was eminently successful. Avowedly, the Fashion had some practical inconveniences. The space taken up by a lady in a public meeting or on the pavement was greatly beyond her proper share. The wide contour was apt to sweep the ground, and send clouds of dust upwards, much to personal discomfort. The quantity of material required for a dress

was so largely augmented as to suggest the idea that silk-mercers had something to do with the invention. Whatever were the drawbacks, the crinoline mania had a fair run of several years. When given up, there occurred the fresh surprise how it ever had received the slightest encouragement.

Crinolines of every variety having been relinquished, feminine society is sorely in want of a new eccentricity. It would be against all rule not to appear ridiculous. So wits are at work in the grand arcana of Fashion. The world had not long to wait. The fiat goes forth from somewhere that, as a superlative novelty, dresses are to be worn tight to the person from top to toe. Instead of paddings and ballooning, there is to be squeezing so tightly as to be hardly able to breathe. To impede walking, and if possible to prevent sitting, the legs are to be held back with strings. By way of compensation for the tightening up, the dress is to be so long as to trail three or four feet on the ground. Such may be called the present fashionable régime, maintained as usual with the force of inexorable law. Woe be to the fine lady who does not make herself as lank as a skinned rabbit, and who fails in the tuckings and tyings to restrain locomotion! What her natural shape may be is nothing to the point. She may not be able to go up or down stairs, except by one foot at a time, like a child learning to walk, but that is of no consequence. Fashion demands that she shall appear maimed in the lower limbs. The law is to be obeyed, and there's an end of it. Objections, however, are not even hinted at. The chief anxiety is rather to go to extremes. In the furor for being as slim as it is possible to be, the ultra-fashionable young lady gives up wearing the usual under-garments. She clothes herself in tight-fitting vest and pantaloons of chamois leather, over which is a slight exterior dress with trailing skirts. To be in leather is the height of Fashion. 'How do you like your leathers?' asks Lady Betty confidentially. 'Charmed with them beyond measure; could not do without them.' The proverbial expression, 'Nothing like leather,' has obtained new significance.

The unchallengeable authority that by self-election regulates female costume, is doubtless European in character. It may issue its decrees from no very exalted sphere, but it at least possesses the power of gauging the feminine tastes and habits that prevail on the eastern side of the Atlantic. Were it analysed, it might turn out to be nothing more than a shrewd man-milliner, who with an eye to profit in ringing the changes, graciously issues his edicts from a back-shop in Paris. Our smart friends, the Americans, once took it into their heads to set up a rival despotism. The effort was audacious and seemingly well meant. It consisted in substituting light trousers with a kind of kilt for the wonted gown and petticoats. Bloomerism, as this new form of female

attire was designated, never took. It did not proceed on the old lines. It amounted to a revolution, and got so unceremoniously laughed at, that it failed to gain a footing. Yet, there was some good in Bloomerism. It might have answered for female doctors and lecturers, with other varieties of strong-minded ladies who are determined, at all hazards, to assert the rights of women.

Under the sanction of what is deemed to be Fashion, there has sometimes been a cruel waste of innocent and helpless animals. On a former occasion we spoke of the odious practice of slaughtering larks, robins, finches, and other small birds, in order to embellish ladies' head-dresses. The vile practice continues, with some additional and costly eccentricities. In one of the monthly records of Fashion we see it stated that, 'After having admitted lizards as side bouquet fasteners, and mice as hat-trimmings, we have now instances of ladies wearing dresses made entirely of scarabæus, birds, insects, and other animals. I have not seen the dress, but a friend of mine tells me that the other evening she saw a lady dressed as an owl! The foundation of the dress was of dark blue, and was trimmed with owls' feathers. In front the apron was entirely of these feathers, and instead of a bouquet in front of the bodice, there was an owl's head, with a similar head in the hair.' The same authority informs us that the right thing is a toque or evening head-dress, 'trimmed with birds' wings, or silver mice, birds, or lizards.' We are not told whether these are real animals or only effigies in the precious metals. A report has reached us, however, that a lady of fashion in London wears an ornament consisting of a live scarabæus, or Egyptian beetle, which is tethered to the front of her dress to prevent its elopement. It has apparently come to this, that in the vagaries of Fashion the animal world is freely laid under contribution, with a view to secure something piquant—a lizard, a mouse, the head of an owl, or a beetle. What are we to think of the intellect that seriously occupies itself with these frivolities?

Slim in figure, squeezed like a wasp, and with head-dresses as fantastic as can be devised, there is one more token of high Fashion. It is a return to the antiquated practice of wearing high-heeled shoes, which happily falls in with the plan of bandaging back the legs, to prevent freedom in walking. The folly of distorting the foot, by throwing the pressure unduly on the toes, is so manifestly vicious, and has been so frequently the subject of remonstrance, that it calls only for a passing denunciation. Those who are guilty of the error will in this as in some other matters live to regret their weakness. The wonder is how the ridiculous extravagances in attire which are here barely alluded to, should for a moment have met with any degree of support. In the article of dress, men and women appear to have pursued an entirely different course for the last

fifty years. The tendency in male attire has been towards extreme simplicity—perhaps too extremely so—while, as regards the female mode of dressing, according to Fashion, it has been a succession of wild eccentricities, always going from bad to worse.

Obviously, the mania, now as formerly, is demonstrated in its more outrageous forms by the idle, the thoughtless, and those to whom money is a matter of little consideration, whether as a result of wealth or otherwise. As partially tending to solve a perplexing social question, it might not be uninteresting to ascertain if the numerous bankruptcies of late years were any way due to the vulgar extravagance in dress of wives and daughters contrary to every rule of taste or propriety. Admitting that the articles are honestly acquired, in extravagance of this sort a bad example is set. Crowds of young women dependent on their personal industry, are constitutionally unable to withstand the mania for imitation, and being piteously dragged at the tail of every prevalent Fashion, they throw away means that ought in some degree to have been consecrated to a thrifty regard for the future. Even those ladies who but to a limited extent yield allegiance to fashionable vagaries have something to answer for. In no shape protesting against absurdities which apparently they know to be wrong they practically countenance the current folly; whereas a spirited policy in resisting what is manifestly ridiculous as well as wasteful, would, we feel assured, be appreciated by the male part of the community.

For some such policy, an argument could be found in improving the health of the young. By all who treat on the subject, exercise of the limbs is recommended as a matter of first importance. Girls do not require the boisterous recreations of boys, but due and recreative exercise is nevertheless desirable, with a view to strengthening the frame, expanding the chest, giving an appetite for food, and throwing the bloom of health into the cheeks. How base therefore are the present idiotic fashions of artificially trussing up the person to prevent freedom of movement! Has any one gravely inquired what is to be the destiny of the beings who are so enfeebled? Certainly it is not to be wives! Wherever fathers and mothers can exert their proper influence, this heinous offence against the laws of health should be peremptorily checked. Let girls, of whatever grade, freely exercise their legs and arms at all suitable opportunities. Let them run at lawn-tennis, play at battledoor and shuttlecock if they have a fancy, and take walks and skate in winter. Above all, they should learn the art of swimming, for independently of the healthful exercise, it may some day be the means of saving their life. To make themselves useful, and prepare for the battle of life, let them help in household work. We have heard of a physician who prescribed the daily sweeping of an apartment with a long broom as an excellent means of expanding the chest of a

young lady; and the prescription answered. Away, at all events, with the paltry tricks which, on the ground of being fashionable, are undermining the health and damaging the prospects of that interesting section of our social system, the young ladies of England!

w. c.

YOUNG LORD PENRITH.

CHAPTER XXXVIII.—AT ALFRINGHAM.

THE third drawing-room at Alfringham, which, as has been mentioned, was so favourite a room with Mrs Stanhope, on account of her belief that its pink hangings suited her complexion, was large enough to accommodate a numerous family. It did, for a wonder, contain for the moment so many as three persons, since, besides Maud and her mother, Lord Penrith himself was there. The master of this grand house very seldom entered any of its sumptuously furnished drawing-rooms. He lived in his own suite of apartments, and was rarely seen out of them except at dinner-time, when he and his sister habitually dined alone, in an enormous room that could not be cheerful in the absence of guests, despite the array of serving-men in and out of livery, and the blaze of gold and silver plate upon a sideboard that would have graced a royal festival.

What Mrs Stanhope, naturally fond of gossip and tattle, of harmless dissipation, and a town-life, must have suffered year after year during Maud's visits at Llosthue Court and elsewhere, and when she was compelled to dine alone with her solemn, silent brother, it would be difficult to estimate. Even the great fire of blazing logs could not in winter bring the social thermometer much above freezing-point on these melancholy occasions. There was state and splendour in abundance. The stalled ox was served without the sauce of either hatred or love, merely garnished with frigid ceremony. There would sit the old peer, eating without zest, caring little or nothing for the wines which the grave butler poured into the array of glasses before him; there on the walls, frowned or smiled a double line of pictured ancestors, as if criticising the conduct of the then tenants for life; and there was the London ex-beauty, racking her modicum of brains to find scraps of conversation that should prevent the dull meal from taking place in mere dumb-show. When Maud was at what was conventionally called her home, matters were pleasanter. Even my lord would be induced to talk a little then. For if Lord Penrith cared for any living soul, it was Maud he cared for; and any servant of the house, any agent, or tenant, or whosever was connected with the House of Beville, would have staked his life that Miss Stanhope was the destined heiress of Lord Penrith's estate.

And now, for a wonder, Lord Penrith was in the third or pink drawing-room. He had come in, leaning on the arm of his valet; and he had been lodged on a sofa, and propped up with pillows at precisely the proper angle, near the fire; and there he was, spreading out his shrunken hands to get the benefit of the welcome heat. His lordship was always cold. His lordship was always ill, though smooth Dr Bland would have been puzzled sometimes, had

he been called upon to state before a jury of experts the precise nature of his noble patient's malady. Yet that the old lord was ill, no unprejudiced person who looked attentively at his face could doubt or deny. He was that most pitiable, perhaps, of all sights, the wreck of a strong man. Handsome he may possibly have been; but he was not comely now, as old age often is. The high forehead was crossed by a thousand wrinkles; the eyes were bloodshot, restless, and unutterably sad; and the mouth, the most tell-tale of all features, had a silent eloquence of its own which told of pain long borne, but in no spirit of resignation. Altogether it was a speaking countenance, the face of a proud man, whose very pride had been caused to sting him, scorpion-like.

'How cold it strikes!' said my lord peevishly. There was a hot fire of crackling logs and glowing embers, ruby-red, and Alfringham Hall was supplied with all manner of cunning contrivances for sending heat everywhere throughout the spacious pile; nor was the weather by any means comparable to what people mean when they speak of an old-fashioned Christmas. But Mrs Stanhope cordially agreed with her brother as to the severity of the weather; and, had he pleased to aver the Dorsetshire climate to be one of arctic rigour, his devoted sister would have been as ready to endorse the assertion as were Hamlet's courtier-friends to liken the cloud to whale or weasel as his Highness pleased. Nor was Mrs Stanhope consciously a hypocrite or a time-server, only that she had laid it down as a rule through life to defer to a brother who had so much in his gift.

Lord Penrith did not seem to care much for his sister's opinion as to the inclemency of the temperature. He was used to hear his words re-echoed, and regarded the circumstance as one of the adjuncts of his position.

'This pillow slips away each time I stir my head,' was the noble invalid's next remark. 'Jackson said he had placed it properly; but Jackson is a fool, a self-sufficient, fool, pig-headed like all Cornishmen; and how I put up with him, or how the Duke bore with him, I cannot conceive, except that Glamorgan is a fool too.'

Lord Penrith, in his querulous moods, was severe in his judgments, and did not spare his own order, as his observations on His Grace the Duke of Glamorgan, K.G., and his body-servant Luke Jackson, who was as careful and considerate a valet as a nobleman needed to have about him, sufficiently proved. Maud rose, and with feminine dexterity adjusted the pillow under the old man's head.

'Thank you, my dear!' said Lord Penrith, more gently.—'Kate, have you had an answer to that letter of yours?'

'From the house-steward at Penrith House, do you mean, dear?' asked Mrs Stanhope, hesitatingly.

'Of course I do,' said the old peer tartly. 'Did you not desire him, at my wish, to get everything ready to receive us when we go up to London to-morrow, and ought he not to have sent the answer before this? Unless, indeed, Mr Smith has gone down to spend Christmas with his relations in the country, and has left Penrith House to take care of itself; which would not surprise me. Nothing does.'

Mrs Stanhope feebly suggested that the post-bag

had not yet arrived; and Maud reminded her uncle that Smith the defaulters had not as yet had time to reply in due postal course, but would doubtless do so by telegraph that day.

'Whether he does so or not,' said Lord Penrith, decisively, 'we go up to town to-morrow. My health is too precarious for me to be any longer a subject for your precious Dr Bland, Kate, to try experiments upon. Bland is a smooth-tongued charlatan, kicked out of London practice to poison us in the country. I tell you he does not understand me in the least, not in the least. Sir Joseph does. Old Sir Joseph Doublefee is a humbug; but he is a physician, and he does know my constitution; and I choose to put myself under his hands again, at least for a time. As for any other things, London will be a shade more tiresome, if that can be, than Alfringham.—Maud, would you kindly ring for Jackson?'

Jackson the valet came nimbly in response to the summons of the bell; and leaning on the man's arm, Lord Penrith tottered, rather than walked, back again to his private apartments. There was not a stable-lad or a weeding-boy employed at Alfringham who probably did not get more enjoyment out of his life than did the noble master of all.

'My poor uncle!' said Maud Stanhope, when she and her mother were left alone together; and her tone expressed a pity that was more than conventional.

'So altered—so sadly different,' sighed Mrs Stanhope, 'from his former self. In one thing, my dear, he is unchanged, and that is his kindness to me. That has been unfailing since the days when I, quite a little child, used to look admiringly up to the bold, tall, elder brother who was even then a young man; for I am eighteen years his junior, you know.'

Maud had most likely been informed on other occasions of the difference of age between Lord Penrith and his sister. At any rate, she expressed no surprise, but merely said: 'Poor Uncle Penrith! His has been but a sad life. I never realised it, I think, as I do now.'

'How altered he is!' repeated Mrs Stanhope. 'Yet I can remember him as a handsome young man, hot-tempered, fiery, and determined to have his own way always; but generous, and not the less liked because of his strong will. His temper, poor man, has cooled itself down now to mere fretfulness; and his very pride has turned inward, and become moroseness. But it was not always so. Before the great sorrow of his life, when Marmaduke the heir was brought back to the house dead, he was so different.'

'I never quite understood that sad story, often as I have heard it mentioned,' said Maud. 'Those whom I remember to have spoken of it did so as if they feared to be overheard, like superstitious people who talk of ghosts and witches after dark.'

'It was a terrible disgrace to the family, besides the horror of the crime,' answered her mother. 'But you, Maud dear, who may come to be mistress here some day, should surely know the truth, melancholy as it is. Marmaduke, the eldest son, was his father's favourite, and in disposition very like his father—only harder and more imperious. Even when almost a child, he domineered over the whole household, I think,

and especially over his younger brother, George Beville, the—the murderer, you know'—

'Tell me,' said Maud, with some interest, 'what sort of person was this unfortunate man whom you call George?'

'I liked him,' answered Mrs Stanhope. 'He was a sweet-tempered boy, and grew into a young man, handsome, indeed—all the Bevilles were that—but shy, timid, and a bookworm. His father, who idolised Marmaduke, and encouraged him in his high-handed line of conduct, despised poor George as a milksop—though George was brave enough, as I remember, in time of need—on account of his preferring books to field-sports, and there was not much in common, between them.

'Now George, as I have said, had a sweet temper, and his patience with his brother was astonishing; but sometimes it gave way, and there would be a heavy quarrel, in which, I am bound to say, Marmaduke was always obstinate, and always in the wrong. There had been such a quarrel, I recollect to have heard, on the morning of the miserable day when the wicked deed was done. The elder brother had a notion that, as the heir of Alfringham and future chief of the family, he had a right to dictate to his cadet not only what he should do, but what he should think. And poor George in the course of his reading had picked up some newfangled notions—about the poor, I believe—which vexed his father, and made his brother very angry. But the dispute this time, though loud and hot, came to an end; and both brothers left the Hall together, and apparently on more friendly terms than had of late been usual.

'Hours passed, and neither George nor his brother came back; but there was no uneasiness; until just before dark—for it was winter, as it is now, and the days were short—there spread a rumour through the place that Mr Marmaduke was killed. It was too true. His body had been found lying near a stile, at the end of a footpath leading from the Ridge to the Bullbury Road. He must have been dead some hours, for he was quite cold. He had been shot through the heart. And beside him in the snow lay a pistol, silver-mounted, and with arms and initials engraved on a plate in the stock; a pistol which my nephew, George Beville, was known to have bought in London only a month before. And George did not come back, and all knew that he must be the murderer of his brother.'

'How dreadful!' murmured Maud.

'Dreadful, indeed!' replied her mother. 'My brother's anguish was such as we seldom behold, at least in a man. But then he had loved Marmaduke so fondly, and had gloried in the prospect of leaving an heir so worthy to succeed him in the title and property—indeed he had begun to allow Marmaduke to interfere with the management of the estate in his father's lifetime, which many wise folks thought wrong—that the blow was hard indeed to bear. He never held up his head again.'

'But the unhappy man who did it—George?' asked Maud.

'George wrote from abroad—from Paris, I think, but I am not sure as to the place—so soon, he said, as the report of his brother's murder, and that he was himself suspected of the crime, reached him

through the newspapers. He indignantly protested his innocence.'

'Perhaps he was innocent, after all,' said Maud eagerly.

'No, no!' returned Mrs Stanhope, with a sigh; 'no one could believe that. The chain of circumstantial evidence—for of course there was no witness—was too strong. There had been a quarrel that very day between the brothers, by no means the first; then there was the discovery of the pistol; then George's absence; and then the younger brother's interest in becoming, as Marmaduke's death made him, heir to the title and estates. And George never ventured to come back and stand his trial. All regarded this as in itself a proof of guilt; but I, remembering his sensitive, nervous nature, and how he shrank from blame, have never been quite sure. His father was sure. He would not even consider his son's assertions, made by letter, of his innocence, or trouble himself about the reasons George gave for his strange absence just then. He merely wrote a violent letter, cursing the fratricide, and casting him off for ever, with bitter regret that in going abroad as he had done, George should have cheated the hangman. There came back too a curt reply to this, saying that the discarded son would trouble his unjust father no more. And that was the last news of George Beville, who died, we believe, in Australia, in poverty; but even that remains uncertain.'

'Perhaps he was innocent,' repeated Maud thoughtfully.

THE FRONTIER-LAND.

IN this which is pre-eminently the age of travel, the frontier-land of America yields to none in the attractions which it offers to the traveller in search of adventure and sport. All of us, it is true, cannot share personally in such prairie experiences as Major Campion describes in his book *On the Frontier*; but the many debarred by the force of circumstances from such silvan delights, cannot do better than turn their backs in imagination on the comforts and luxuries of nineteenth-century civilisation, and accompany him into the land of the bison and the scarcely less savage Indian brave.

Major Campion's party consisted of five—himself and a friend, two hired backwoodsmen, and a clever well-educated ne'er-do-weel yclept Jack, who volunteered for the office of cook to the party. This gastronomic volunteer proved himself in fact to be no mean disciple of Soyer; although the difficulties he had to contend with in the shape of a smoky camp stove would have taken the heart out of almost any other *chef de cuisine*. The outfit, in addition to the aforesaid stove, consisted of a light covered wagon, four mules, a tent, a watch-dog, and two good horses trained to the sport of buffalo-hunting, and hence technically known as buffalo-runners. The possession of a good buffalo-runner is of the utmost importance to the would-be buffalo-hunter, as should the rider momentarily lose his presence of mind, as is not unusual with a novice when first brought face to face with the stupendous rush of an enraged buffalo, the trained horse performs his accustomed evolution, and by

a sudden spring to one side evades the murderous charge.

Major Campion bears his testimony, as almost all travellers have done, to the expansion of spirit and wonderful exhilaration of body and soul produced by travelling in fine weather through the vast plains of the western wilderness. 'Around us,' he says, 'was a rolling prairie, with an horizon like the ocean's; and a balmy, invigorating, almost intoxicating air blew over it into our faces, coming untainted and unpoisoned by the breaths, smells, and smoke of cities, from the Rocky Mountains, seven hundred miles off.'

Day after day the travellers journeyed over these grassy plains, which ever as they advanced lengthened out before them into what seemed an endless immensity of verdure; till one day scanning with anxious eyes the wide ocean of green, it was seen to be dotted with small black specks, which in the distance massed themselves into little groups, which again were defined into a dark line on the horizon. A sudden jubilant shout rent the air, for there at last were the much desired buffalo. It is one thing, however, to sight buffalo, and quite another thing to kill or even to stalk them, as our travellers found. The first thing needful was to pitch their camp. Without much difficulty a site was found for this movable hunting lodge, which was christened Camp Gibraltar; and from the top of a high tree in its vicinity an anxious look-out was kept upon the herd of buffaloes. At first they seemed stationary; but by degrees the shaggy forms of the bulls, which always feed upon the outskirts of the herds, became more distinct, and it was evident that they were slowly approaching. Soothed by visions of buffalo humps and tongues on the morrow, each aspiring Nimrod wrapped himself in his blanket and sank into a fitful but not unguarded sleep of expectancy.

A sentinel was always posted at night at Camp Gibraltar, and the sentry of the prairies be it understood has in some respects a much more arduous task than his European congener. He must in the first place neither walk nor stand; to do either would make him a sure mark for the silent arrow of the prowling Indian scout. No; he must grovel ingloriously but safely upon his stomach, hidden by the long prairie-grass—'with his elbows far apart, his wrists brought together, his chin supported on his hands, his ears open, and his eyes everywhere.'

In this position of little ease the sentry of Camp Gibraltar had been already squatting for a couple of hours on a fine moonshiny night, when he suddenly heard a sound which he could not at all make out. It was low at first and indistinct, like the faint far-off murmur of the sea; but it increased every moment in strength and volume till it sounded like the roll of distant thunder, or the roar of the surf on a rocky shore. Thoroughly puzzled, the sentinel awoke his comrades, and a hurried council of war was held. Was it a prairie-fire? No; the grass was too green for that. Was it a sudden rain-storm to the west, and was the Republican River, on whose banks they were encamped, coming down in flood, to sweep away the sandy foundations of their temporary home? This contingency was alarming enough; but after a few anxious minutes the sound was clearly perceived to come from the direction of the herd of

buffaloes; and thoroughly tranquillised by this discovery, the novices turned in again, and were soon fast asleep. Even the sentinel grovelling among the long prairie-grass owned afterwards to a few moments of profound unconsciousness, when there was a sudden crash, as if the whole universe around them were falling to pieces with a deafening roar; and with a start the inmates of Camp Gibraltar awoke. 'The scene around them was terrific. The air shivered with noise, the earth trembled under their feet. The main herd was crossing the river close to their camp. The roar of the bulls, the lowing of the cows, the tramp of thousands of feet, the splash of water as the huge mass of animals plunged and struggled through it, the crumbling fall of the bank as the buffaloes forced their way up its steep face—all were blended in one mighty tumult.' Sheer astonishment at first held them speechless and motionless; but this soon gave way to the instinct of self-preservation. They were in imminent peril; if the herd came their way, they would be ground to powder; their only safeguard was a fire, which was piled up, and fed all through that memorable night, whose long hours were spent in watching the continuous tramp and din of the ever passing, apparently interminable herd.

Major Campion says of this striking spectacle—which bids fair, from the rapid decrease of the buffalo on these western plains, to be soon numbered among the things of the past: 'I have stood on the deck of a ship aflame in mid Atlantic; I have been startled from deep sleep by the firing of rifle-balls, the quick zip-zip of flying arrows, the death-scream of a slaughtered sentinel, and the war-whoop of the Red Indian—but none of these scenes recall themselves more forcibly to me than does that midnight crossing of the Republican River by that mighty host of buffaloes in thousands.'

Next day the whole prairie was alive with them; and our traveller, after two hours of patient stalking, was rewarded by an old bull coming lumbering round the corner almost up to him, and then gently trotting off. He gave chase at once; and the wily patriarch finding his pursuer gaining upon him, suddenly wheeled round; then pivoting on his hind-legs, he lowered his head, tossed back his shaggy forelock from his fiery eyes, and switching his tail into the air, made a sudden charge, which would inevitably have ended for ever Major Campion's hunting adventures, if it had not been for the sagacity of his horse, a well-trained buffalo-runner. He had fired just before the brute charged, but without success; and now his comrade did the same, and wounded it, but so slightly, that it in no way interfered with its rolling gallop. Spurring their horses to their utmost speed, both men now gave chase, and as they closed upon the bull, fired off their pistols, wounding him as before, but failing to kill him. The horses were now thoroughly exhausted; and very reluctantly the patriarch of the prairies had to be abandoned to his fate, which meant most probably the tender mercies of the prairie-wolves; and the two crest-fallen hunters, minus hump, tongue, or juicy steaks, sneaked back to camp. Meanwhile the two backwoodsmen and Jack the cook had with a single shot killed a buffalo which had come down to the river to

drink; a piece of good fortune which, however mortifying to the *amour propre* of their masters, had the attendant consolation of buffalo-steaks for dinner, and marrow-bones which were voted delicious.

A great proportion of the buffalo-meat, all that cannot be used fresh, is jerked; that is, it is cut into strips of equal thickness and as long as possible; these are dipped into brine, laid upon a rough wooden table, under which a fire is kindled to keep off the insects, and dried in the sun.

This free jolly hunter's life at Camp Gibraltar came like all superlatively good things to an all too sudden close. One frosty night when wreaths of silvery mist were creeping up from the river in the moonlight, the sentinel, grovelling as usual upon his stomach among the long damp grass, became aware of an indistinct object approaching through the mist. Looming gigantic in the distance it resolved itself as it drew nearer into a horseman, carefully tracking in the moonlight an easily followed trail. Arriving close to the camp, where all the trails blended into one, he reined in his horse; and there, in the clear full light, stood revealed the striking figure of an Indian brave. 'His bow and arrows and his long thin lance hung crosswise at his back; his rifle lay athwart his saddle-bow; the fringes of his hunting-shirt and the stained feathers of his head-dress stirred and fluttered in the night-air;' while he, motionless as a bronze centaur, gazed steadily in the direction of the camp. Meanwhile the sentinel in the grass above, with his rifle at full-cock and the index finger of his right hand laid against the hair-trigger, was anxiously debating the question to kill or not to kill. Prudence suggested the former alternative; but it was too like murder in cold blood; he could not bring himself to shoot, and the dusky spy was allowed to ride off in safety; but no sooner was he gone, than the camp was roused, the wagons packed, and a hasty backward march made to Fort Riley, where their safe arrival created no little sensation. They were declared 'to have crowded their luck;' and were assured that three tribes of Indians were out upon the war-path, so that the usual frontier military toast, 'The hair on the top of your head, and long may it wave there,' had a deeper significance than usual in their case.

Camping out in summer or autumn, when the wide grassy plains and clumps of forest are one mass of green luxuriance, when a thousand sweet perfumes load the air, and the verdure is brilliantly flecked and dappled with masses of gorgeously hued flowers, is a very pleasant thing. But Major Campion had experience also of a long winter-camp—out in the Rocky Mountains. He had with him his comrade of Camp Gibraltar, and two men who had long been in their employment—Joe, a big ruddy complexioned Missourian; and Lafayette or Laughfy, a tall thin sallow Yankee from Maine. They had two light strong wagons built for mountain-travel, a variety of stores, two powerful dogs Nip and Tug, and twenty beaver-traps, as they meant to trap beaver as well as hunt. They chose for the site of their winter-camp a large secluded valley called Wet Mountain Valley. It covered a tract of country forty miles long by twenty broad, and was inclosed by high rocky peaks. It was entered by a defile known as the Gate of the Plains, and was in itself a little lonely

world, composed of glades, glens, and small valleys opening into each other, with abundant willow-fringed streams well peopled with beaver. In the central valley a rude hut was built with oak and cedar branches; a great fire was laid; a hole was dug in the ground, and lined with stones for an oven; and a high platform was made where meat could be beyond the reach of wolves and pumas. The valley was then explored and was found to contain a large quantity and variety of game—white-tailed, black-tailed, and spruce deer, ash-lata or big-horns, elks, bears, wolves, foxes, lynx, and pumas, wild-turkeys, wood-grouse, and mountain partridges.

In this hunter's Elysium the weather continued charming and the fare of the best till close upon Christmas Day, when a foot of snow fell, and the game all disappeared, leaving them with a larder well nigh empty, and the cheering prospect of making their Christmas dinner off fat bacon and the traditional plum-pudding, the materials for which they had brought with them. This dismal look-out was a little brightened by one of the hands, who brought in word on the evening of December 23d, that he had seen wild-turkeys feeding five or six miles from the camp. Now wild-turkeys are the most wary and cautious of birds; they are as difficult to stalk as the shyest of deer; and our Major, who started in pursuit of them at daybreak next morning, had a charming day of it. Early in the forenoon he came upon the track of eight turkeys, and followed them up hill and down dale, through thickets, and across half-frozen streams for many a weary mile and hour, until at last he lost all trace of them. This looked gloomy; but there was a silver lining to the cloud, and he was cheered by finding the tracks of a large deer in the snow. Fat venison may serve at a pinch for a Christmas dinner as well as fat turkey, so he started at once in pursuit of the fresh game; but in crossing a wide stream the ice broke, and down he went waist deep in intensely cold water with a crash loud enough to startle all the deer in the valley. With difficulty he scrambled out benumbed with cold and feeling his clothes beginning to freeze upon him, but amid all his discomforts still intent upon a turkey. He was still watching and longing under the cotton-wood trees, when his comrade came up with two turkeys slung over his shoulder; and these, with two others which were afterwards secured, and a fat buck shot down by the backwoodsmen, made a very respectable Christmas dinner.

The fur of the beaver attaining its highest perfection about Christmas, exclusive attention was now given to beaver-trapping. Beavers have been often written about; but our author considers that a want of practical experience about the habits of the animals has prevented this information from being very precise. He himself has often dug up beaver-houses, and his uniform experience of them is, that the entrance is invariably a round hole, nine or ten inches across in the bank of the pool which their dams make in the stream. This hole runs back from four to ten feet into the bank, and ends in a circular basin four feet across, and four feet deep, with a vaulted roof about a foot above the water with which it is filled. The ingenious creature thus secures for itself a winter bath, in which there is no danger of the water freezing. From this bath passages lead off to the dwelling,

breeding, and store rooms of the beaver family, of which there is only one pair to each house, the old ones helping the young ones when they leave the family mansion to build one precisely similar for themselves. In autumn, they lay in a supply of winter-food, consisting of the small twigs of osiers and the inner bark of cotton-wood trees, alders, willows, and marsh-maples. Their dams have been often described; but to shew what wonderful undertakings they are, it may be mentioned that the building of them often involves the felling of a tree forty or fifty feet high, and that the beaver never fells a tree too short for his purpose, and seldom one too long. They are always built upwards from the bed of the stream, and in mountain streams are generally eight feet high. The object of these dams is to keep the water in their pools at a uniform level; and during a flood the beavers break up a portion of the dam, to allow the surplus water to escape. When the water is sufficiently extensive and unfluctuating for their purpose, the beavers build no dam. This little creature is one of the most sagacious and cautious of animals. If a beaver escape alive from a trap in one of the most frequented trapping-grounds, no more traps need be set there that season. 'Beaver-trapping,' says Major Campion, 'is a contest of acquired skill and knowledge, of patient unremitting care and attention, of energy and of endurance, versus the natural instinct, if we may not call it reason, of the most sagacious, acute, and wary of all the brute creation.'

Owing to a late and unexpected snow-storm which had driven away all the game, the camp in Wet Mountain Valley was almost reduced to the point of starvation. The hunters had little else to live upon except a handful of Indian corn served out to each man per diem, and boiled in a little melted snow-water.

In a few days, however, the two men who had been sent for succour returned with supplies, and the camp in Wet Mountain Valley was broken up, all the sooner that a party of Uté Indians appeared on the scene and soon drove away all the game.

On their way to Fort Mojave on the Colorado River they passed through a tract of sterile country, the salt desert, where the grass and sand were covered with a salt efflorescence which had the appearance of white frost. In this desolate land is Soda Lake, which at a distance looks like a clear beautiful sheet of water with patches of verdure along its banks; but which near at hand is found to be a dreary expanse of baked mud thickly covered with shining efflorescent salts, and fringed with beds of marsh-grass. After toiling at a slow pace through two hundred and fifty tedious miles, the beautiful Colorado Valley came in view. This valley, or rather succession of valleys, is fertile and well wooded, and in its upper reaches is sparsely peopled by Indian races, the Mojaves and the Apache Yumayas. With Pah Squal, the war-chief of this latter tribe, the Major and his friend partook of a very appetising meal. One dish was wood-rats, roasted in their skins, skinned, and served each on a large leaf, plump, white, and piping hot. The smell was most savoury; and the Major wisely concluded that he was safe in throwing European prejudices to the winds. 'I took one,' he says, 'seasoned it

well with pepper and salt, ate it; and hereby testify by these presents that wood-rat properly cooked is most excellent eating.' These Apaches are cool, cautious, daring savages, and determined cattle-stealers. If they once get away with a herd, it is almost impossible to recapture the lost animals. An application is usually made, it is true, to the nearest fort for a detachment of cavalry to pursue the marauders; but before the cavalry can be put in motion, one-half of the cattle are slaughtered or have fallen a prey to wild beasts; and in Major Campion's words, 'they return, men and horses done up with rapid travelling, short commons, exposure, and disappointment; so has ended many a hard scout I have been on in that desperately difficult country to campaign in—the home of the Apache.'

For those who delight in tales of wild adventure, we recommend the graphic descriptions contained in Major Campion's stirring volume.

A PIOUS FRAUD.

'GOOD-BYE!'

'Good-bye! You will not fail to come to us next week?'

'O no! Give my love to Bessie, and tell her how anxious I am to know her personally; I have heard so much of her from Joe.'

The last speaker was my wife's sister-in-law. Brother Joe, as we all call him (my wife's brother), had gone to Canada a very young man, and by steadiness and perseverance, having risen to a good position, he had in due course taken unto himself a wife. Kate Morton, our sister-in-law, was an orphan, having an only brother, who was now settled in the old country; for though he and his sister were born in the Dominion, their parents both belonged to old Essex families. Kate had already become a familiar friend to us, through the medium of the post-office; and now in failing health she had visited England, *en route* for Nice, where her medical advisers had recommended her to winter.

Joe was to have accompanied her; but at the last moment, business called him away to New York; and as it was uncertain when he would be at liberty, it was deemed advisable that she should take the journey as far as England by herself, rather than risk an uncertain delay.

Her first visit, on arriving in England, was naturally to her own brother, who had settled down to the life of a gentleman-farmer at Sewardstower, and thither I had come to introduce myself to our sister-in-law.

Sewardstower—as everybody must know who knows anything about it at all—is, though very charming, by no means a popular resort. In fact, therein lies one of its charms; for though not more than an easy journey from the metropolis, no railway Company has as yet been venturesome enough to organise a series of cheap trips to it. Indeed the most modern enterprise has brought no station nearer than two miles to this earthly paradise. It is beyond the radius for pleasure-vans; and were it not, no accommodating hostelry is there to offer good entertainment for man and beast. It is not a town; you could hardly describe it as a village. It is rather an area occupied by landed gentry and gentlemen-farmers.

It is a bright moonlight night, and I have

preferred to walk to the neighbouring station, rather than allow any of Mr Morton's horses to turn out; besides, I enjoy a brisk walk at any time; and to-night the look-out from the high ground at Sewardstower, down over the wooded slopes, and away for miles across the marshy flats below, is really charming.

I have not gone very far from the house when something glittering on the roadway attracts my attention, and on picking it up, I find that it is a ring. I examine it as well as I can by the moonlight, and while I am thus engaged, a stranger overtaking me wishes me good-night. I am nothing loath to have a companion for my two-miles' walk, so I return his salutation cordially, and we are companions for the rest of the journey. My friend, from his style of dress, is evidently a dissenting clergyman. He is well informed, and inclined to be companionable; and I am delighted to find that he, like myself, is bound for the metropolis. I find that he has such a fund of general information, and we have so many sympathies in common, that before long we have exchanged cards and mutually promised ourselves the pleasure of improving each other's acquaintance.

On our way to town, in unconsciously groping in my pocket, I come upon the ring, which in the animation of conversation I had almost forgotten. I take it out, slip it on my finger, and examine it more closely. I am surprised to find that it is apparently a diamond ring, the stone of unusual size, and so far as I can judge, of great value. My friend and I have become so very confidential that I am half inclined to tell him all about it; but on second thoughts I consider this hardly prudent; so instead, I put the ring, hand and all, into my pocket again; and for the remainder of the journey am perhaps a trifle less companionable, for I am turning over in my mind what I had better do with my treasure-trove. The result of my cogitations is that the next day I send advertisements to all the leading journals, offering to restore the ring to the rightful owner on a correct description of the lost trinket being given. The external appearance of the ring is somewhat unusual—a large diamond set in a band of rubies and emeralds; but in the inside is engraved simply a date—December 12th, 1870. Here is a test that defies the attempts of any impostor.

It was not long before the first claimant appeared. A very respectable elderly gentleman called upon me that evening. He could not be sure where he had lost his ring. He had lost it he knew on the 7th of September. (Date correct.) He had been visiting friends at Walford and Entham that day, and had likewise made a call at Sewardstower. He could not say if he had lost it at any of these places, or in London after his return. It was a very valuable ring, but to him it was precious above all things as being a souvenir of his only son, who had been lost in a shipwreck on his voyage out to New Zealand.

The old man's half-suppressed emotion as he alluded to the sad fate of his son was so touching, that I felt it rather a delicate matter to cross-question him as to the peculiarities of the ring, seeing that the date and place of his losing and my finding it were coincidental. However, when he had quite recovered himself, he gave me a very

exact description of the outward appearance of the ring I had picked up.

'May I ask,' said I, 'if the ring you lost bore any inscription?'

'Not any.'

'It is rather odd,' I replied. 'You have given a wonderfully accurate description of the ring I found; and I am sorry it is not yours, since you have so good reason to set an additional value on it; but this ring bears an inscription.'

'Then it cannot be mine; but the ring I lost my son had made especially, and it is odd that there should be two so much alike.'

'Perhaps it might be a satisfaction for you to see this ring,' said I, producing it from my pocket.

The old gentleman stretched out his hand in eager haste, and as he did so, I observed tattooed on his wrist an anchor and the letters D. C. It seemed so out of place that I could not help noting it. He recovered himself, and apologised for his eagerness; the ring was so remarkably like the one he had lost, that for a moment he could not control himself.

After a careful examination, he returned it to me with a sigh. 'No,' he said; 'it is certainly not my ring; but it is an odd coincidence. I must apologise for having troubled you. Good-night.'

Next morning I had an early visitor. A smart business-like young man, who apologised for intruding on me at so inconvenient an hour, but he had called at my place on his way to the City. He had seen my advertisement, and had called as a forlorn-hope; not that he for a moment expected that the ring I had found was his. In fact, he had lost it in such an out-of-the-way place that it was far from likely I had been there to pick it up.

'Might I ask when and where you lost it?'

'At Sewardstower, on the 7th of September.'

Rather odd that this secluded paradise should have had so many visitors on that particular day.

'Will you describe the ring?'

'It is rather an extraordinary one—a large diamond surrounded by a band of rubies and emeralds, and inside engraved the date December 12, 1870.'

'Is this your ring?'

'No doubt of it, sir,' returned he, after a careful survey. 'This is most extraordinary! You will of course allow me to defray all expenses for advertising.'

'Of course; that is only fair.'

'I hardly know how to propose such a thing, but the ring is of considerable value. Could I not offer any reward?'

'Certainly not. But if you think fit, you may send a contribution to the Indian Famine Fund in the name of "A recovered relic."'

'I will send a cheque for twenty guineas as soon as I get to the City.'

I examined the list next morning; but found that my friend had not kept his promise. The second and third day the same. I began to suspect that he had broken faith with me.

On the fourth day, our sister-in-law arrived, and all sublimity things were forgotten for a while in the excitement of receiving her. After a long discussion on family matters with my wife, and a prolonged visit to the nursery, which is the treasure-room in our house, and an almost as pro-

longed and interesting visit to the wardrobe where Canadian and European styles and prices had to be compared and discussed—these subjects of paramount interest being exhausted, the conversation fell to the more ordinary level, and my wife gave Kate an outline of the adventure of the found ring.

'It is very strange,' said Kate; 'but my brother is in some trouble about a ring that he has lost.'

'What sort of a ring was this?'

'Oh, a very unusual one. It was an heirloom, and has been in our family for many generations. A large diamond set in a circle of rubies and emeralds.'

'Had it any inscription on it?'

'Yes. When it came into my brother's possession, he had the date of our father's death, December 12, 1870, engraved inside it.'

'Did he lose it at Sewardstower?'

'Yes; last Wednesday.'

'The seventh of this month.'

'Yes; I believe on the seventh.'

This was enough. I paid an early visit to the nearest police station; and in the course of the evening a detective was sent round to confer with me. Sergeant Rolls was a very silent man. If he entered into the case with any enthusiasm, he certainly gave no outward manifestation of it. He heard my story without comment, filling up the pauses with an occasional nod, the only variation being a shake of the head indicative of disapproval when I told him of my volunteering an exhibition of the ring to the old gentleman. He made a few memoranda in a well-worn pocket-book.

'Do you think there is any chance of our recovering the ring?'

'I can't say much about that, sir; but I think I know our man. If it is one of his jobs, he's wanted for a bigger one; but he's a rare slippery fellow.'

'I would willingly give twenty pounds to recover the ring I have so stupidly parted with.'

'If I hear anything, I will send for you at once.'

Two days later, I received an intimation that I was wanted; and on going round to the police station, I was received by Sergeant Rolls in the same quiet manner that had characterised our first interview.

'Well sergeant, have you heard anything of the ring?'

'You may set your mind at rest about that, sir. Be kind enough to step this way. Please take notice of every one you see in here; but do not make any remark until we are alone again.'

He led me into a room at the back of the court, evidently used as a recreation-room, for the men while waiting for their turn of duty. A long deal-table occupied the centre of the room, on which were scattered newspapers, publications, chess, draughts, and dominoes. The whitewashed walls were ornamented with maps, illuminated texts of Scripture, and a framed copy of police regulations for the private instruction of the force.

Around the table were seated five men in plain clothes, and on duty were two policemen. With one of these Sergeant Rolls entered into an inaudible conversation, while I made my survey of the other occupants of the room. I thought them on the whole rather a villainous company, but probably my mental vision was distorted by

the influence of the place. The first two I dismissed after a very brief survey; but I could hardly suppress a start as I recognised in the third the smart young man who had so adroitly gained possession of the ring. Very disreputable were his looks now; but a sojourn in a police cell is rarely advantageous to one's toilet and general appearance. The fourth called up no memories in me; but I had a haunting recollection of the face of the fifth. He was certainly the most respectable-looking of them all—an elderly, gentlemanlike man. Could it be possible that he was the plausible patriarch who had beguiled me into displaying the private marks on the lost ring?

A look of intelligence from Sergeant Rolls, and he passes out of the room, I following.

'Well?'

'The first, second, and fourth I have never seen before.'

'Very likely not; they are three of our own men.'

'The third is beyond a doubt the man who got the ring from me.'

'Very little doubt of that, sir. We have the ring; and it will be restored to you in due course.'

'The fifth I am not sure about; but I strongly suspect him of being the old gentleman who called upon me the evening before I parted with the ring.'

'Steady there, sir; steady! That's our district superintendent. Our books here will prove an alibi for him if necessary.'

'But I am sure I have seen the face before.'

'Very likely. He took down the information the first day you came to us; but he was in uniform then, which makes all the difference.'

'To be sure,' I exclaimed, my memory being recalled to the circumstance.

'Let me see,' said Sergeant Rolls, producing his pocket-book. 'I think you described some peculiar marks on the old gentleman's wrist.'

He walked over to a speaking-tube in a corner of the room; and almost immediately after he had taken it into his confidence, the occupants of the adjoining apartment began to file out. As number three left the room under careful escort, the sergeant brought him forward into the bright light.

'Turn up your right cuff.'

The order was sullenly obeyed; and what was my surprise to see the tattooed anchor and D. C., which had distinguished my first visitor. At a signal from the sergeant he was again removed.

'You are rather surprised.'

'I confess I am.'

'The man's career has been very extraordinary, perhaps one of the most remarkable biographies in our strange library. Educated at Eton, he believed that a naval career was the most suitable for him. His friends had different views; and as they would not purchase him a commission in the navy, he shipped in the merchant service on his own account. One voyage convinced him that his friends were right; but he was too much of a Bohemian to settle down in respectable society and go in for the Church, as his people wished. The first time he came under our notice was as a "drunk and disorderly," and very often afterwards we had him as a lodger. At that time he was an actor, and of unusual talent when he was

sober, but so unreliable, that he could get no employment except at second or third rate houses, where they were glad of something superior at a small salary, and where his audiences rather enjoyed the excitement of an occasional rumpus, when his potations left him in an obstinate or quarrelsome humour. He always had a contempt for his supporters, and having lost their favour, the temple of the drama speedily closed its doors on him. He had a hard life of it for a while; but suddenly he took a sober fit, and we lost sight of him altogether. By-and-by a number of impostures, robberies, and other matters of that sort puzzled us for a while. The individuals connected with them answered to different descriptions; but from a professional point of view, we soon detected one hand at work through them all. We got enough information to give us a strong suspicion that our old friend was using his acquired experience in making up and playing a part. He is a slippery customer, however; and I don't know if we should have landed him now had it not been for your ring.

'How did you discover it?'

'Ridiculously simple. He had just completed a big job that had occupied him some time, and which had necessitated his being a strict teetotaler for a few weeks, and pretending an unusual amount of morality. I suppose this was so unpalatable to him, that he had given way to his old vice, and in an unguarded moment he was flashing about the ring. His old experience of the Brummagem gems which he wore in big theatrical parts, had given him a weakness for jewellery.'

'I suppose I will be bound over to prosecute?'

'I don't think so. The fact is he was wanted for the big job I spoke of just now, if we can bring it home to him. A very clever thing it was too. Would you like to hear of it?'

I am surprised to find that the taciturn sergeant can be so talkative, and encourage him to proceed.

'Well, sir, Mr — is a very earnest, pious gentleman, and does a power of good in his part of the country. He is very wealthy, and anybody who has a really benevolent scheme is sure of a hearty welcome at his house. Our friend, by means of a forged letter purporting to come from one of the great American revivalists, introduced himself to Mr —, and was received with open arms. He must have played his part to perfection, for his host keeps open house at all times to clergymen and missionaries of all denominations. When he had his plans thoroughly matured, he organised a meeting, to which all the neighbourhood was invited, and in which the servants of the household as usual took part.

'The singing was evidently to be the signal for his confederates.—You may have attended some of the services at the Agricultural Hall, and know with what hearty good-will the hymns were always rendered.—The coast was clear, the whole household being in the dining-room. The noise of the singing was ample enough to drown any that might be made by the burglars, and so many of the neighbours were present, that the chance of disturbance from without was reduced to a minimum. By the time the benediction was pronounced, the house had been stripped, and the robbers were fairly on their way to the purlieus of Whitechapel.'

'Where and when did this happen?'

'At Sewardstower, on the evening of the 7th September.'

'I must have come up to town that night with one of the ministers who had attended the meeting.'

'And you gave him your card?' said Sergeant Rolls with more eagerness than he was wont to display.

'Yes,' said I; 'we exchanged cards in the train.'

'Do you happen to have his?'

I find it in my pocket-book, and hand it to the sergeant.

'The Rev. Timotheus Bracebridge. The very man. One of the cards he must have had printed specially for this job. You did not mention this meeting to me when you stated your case.'

'I hardly thought of it, and did not see what bearing it could have on the subject.'

'How did you suppose that the old gentleman was able to give you so accurate a description of this remarkable ring?'

'I see it all now. I remember taking it out of my pocket in the train. How clearly it has all come out!'

'Yes; I think that the two cases dovetail beautifully. The fact is our friend has so thoroughly taken in Mr — that he thinks we are on the wrong scent. But the circumstantial evidence is pretty strong now.'

I have no intention to take the reader through all the lateral circumstances connected with the memorable trial which followed, the details of which are foreign to my story. Suffice it to say that in the able hands of Sergeant Rolls the clue afforded by the recovery of the ring was so vigorously followed up that in a week's time the whole gang were in the hands of justice. Mr —, much against his will, was convinced of the perfidy of his protégé, who has now resigned his many aliases for the permanent title of 'No. 9247,' and whose ingenious making-up will for the future be restricted to the monotonous one of a close-cropped wig and an unbecoming suit of gray.

Reader, the moral of this story is evident: beware of submitting your valuables to the scrutiny of a stranger.

HAPS AND MISHAPS OF LAND TELEGRAPH LINES.

In a former number of *Chambers's Journal*, No. 708, we recorded the haps and mishaps which commonly befall a submarine cable buried in the depths of the sea. Our present purpose is to give an account of the contingencies which occur to an overland telegraph erected in the air. The haps and mishaps of submarine cables have proved themselves to be of a kind totally unexpected by even the highest authorities on the subject; and although, from the exposed nature of land-lines, many of the ills which they are heir to might have been anticipated, still we may be able to shew that there are some curious experiences in their lot, which even the wisest could not have foretold.

One of the worst enemies to the telegraph wire in various parts of the world is man himself. Even in civilised countries, the soot from chimneys and railway trains is ever settling on the little

cups which insulate the wire from the poles and the ground ; shreds of twine or cloth, and kites' tails, are constantly getting entangled in the wires, and connecting them to each other or to the supporting poles, so as to make the current leak from one wire to another, or to the earth itself. Mischievous boys are occasionally guilty of throwing stones and breaking the insulating cups, or climbing the posts and cutting the wires. These, and the evils which sometimes arise from snowstorms, are among the chief mishaps to which our overland telegraphs are liable.

It is in wild countries however, and from savage man, that the telegraph encounters its most dangerous foes ; though at the same time, less trouble has been met with amongst the barbarian races through whose territories the telegraph has passed, than was formerly expected. The two great causes of this comparative immunity from trouble are 'backsheesh' (money donations) and superstition. The most suspicious natives soon found that once the line was erected it was a very harmless affair, and they were none the worse for it ; while the money paid to them to make them respect the line was very easily won, and very welcome. When the great Indo-European line from England, *via* Russia and Teheran, to the head of the Persian Gulf, was made, the wild Arab and Tartar hordes of the Euphrates Valley were soon quieted by an annual backsheesh to their sheiks. In Senegal the wooden posts are often burned by the natives firing the tall grass of the hills ; but this is mere accident, as they have a superstitious dread of what they term the white man's talking-jumbo. It is a powerful and malignant 'fetich' to them, which they would not willingly meddle with. Similarly, a number of the North American prairie tribes, such as the Navajoes, regard the line with a reverence highly creditable to them as a race ; and it is remarkable that during former troubles with the Kaffirs, the fierce Galeka and Gaika warriors left the frontier telegraph wires almost entirely unmolested.

The strongest opposition to a telegraph line from uncivilised races is always met with when it is first erected. Fear of the strange thing, and jealousy of territorial encroachment, naturally excite the savage mind to resent the innovation ; and most construction parties in wild countries have to be protected by an escort of troops. The great trans-Australian overland line recently completed, was carried for hundreds of miles through desert solitudes, unharmed by the blacks ; but on the Macdonald Range a band of hostile natives were encountered ; and the electricians gained a bloodless victory over them by connecting the poles of a powerful battery to the wire, and administering shocks unawares to those of the natives who were prowling curiously around. The mysterious power, which seemed to them like a thunder-stroke, inspired them with a wholesome terror of the wire, and they gave it a wide berth ever after. Both in Australia and New Zealand, several erecting parties have been attacked by the aborigines and massacred. Of late however, in New Zealand the Maoris have shewn a different spirit, probably because of a better management on the part of the whites ; and Maori squatters now help to build the line, which they look upon as a triumph of their scientific abilities.

The telegraph line has very often to suffer from

the thievish propensities of natives. The Arabs of the Nubian desert are continually stealing the wire of the line which runs from Cairo to Khartoum on the Blue Nile, for the purpose of pointing their spears. In India the sepoy cut the lead soldering from the insulators to make slugs of it ; and the Chinese have long regarded the wire as a very convenient source of tea-box nails ; while some of these childlike individuals caught in the act of cutting down the posts have been known to plead that they thought they grew there. The Celestials have hitherto shewn a peculiar spite against the telegraph, both cable and land-line ; and it is satisfactory to learn that they are now much better disposed to it ; the telephone having opened their eyes to its advantages. The fact is, they did not understand the former telegraphs, and they were unsuited to the Chinese language, which has no alphabet. But now the telephone enables them to converse, and transmits with peculiar fidelity the metallic twang of their monosyllabic language. They are vastly delighted with it, and have just discovered for the first time that it was originally Chinese, having been invented in the year 960 by Kung Foo Whing ; an announcement which will satisfy their self-complacency, without disturbing the equanimity of Professor Bell.

On one occasion the wires of the Pagoda Company having been repeatedly cut and stolen, the Chinese Board of Foreign Trade issued a proclamation to the following effect : 'These fellows really shew an inveterate and detestable love of mischief. Although telegraphs are a foreign invention, still the line has been purchased by the government, is managed by the government, and is government property. The laws shew no leniency to those who steal goods belonging to the government. Telegraphs are war material also, since they are used in times of war for transmitting military messages ; and people stealing war material are liable to severe punishment. The authorities might seize and punish these persons rigorously, but forbear because of their ignorance. All of you were originally good ; how is it that you do not shew any self-respect ? Fathers must warn their sons, and elder brothers their younger ones, to prevent violation of the laws. People found stealing wire will be seized, tried, and executed on the spot as a warning to others. For the apprehension of such persons two hundred dollars reward is offered. It will be impossible to shew mercy hereafter. Therefore let everybody ponder over this three times, that he may have no occasion for repentance afterwards. Tremble and obey !'

The American civil war first introduced the plan of 'tapping' the wires, and abstracting or eavesdropping a message, which now plays an important part in all military operations. One of the first acts of a hostile army in an enemy's territory is to cut the telegraph lines. Even the Sepoys in the Indian Mutiny knew the advantage to be gained from this, and native troopers had to be kept patrolling the lines in order to protect them where possible. A line can be 'tapped' without cutting the wires, by simply connecting another wire on to the line and joining the instrument between this branch wire and the earth. The 'circuit' necessary for the transmission of the fluid is thus made, and messages can be intercepted in their progress to places beyond.

Mademoiselle Dodu, the superintendent of a French telegraph station, was decorated with the Legion of Honour for the patriotic crime of having, at the risk of her life, intercepted a despatch between two German generals during the Franco-Prussian War. This tapping of the wires is sometimes practised in America for fraudulent purposes. A few years ago there was a notorious mining case being tried in Virginia City, Nevada, in which the title to a mine, valued at fifty million dollars, was in dispute. The future market-value of the stock in San Francisco depended entirely on the result of the suit. If the prosecutor won, the stock would fall; if the defendant won, the stock would rise. If one of the 'mining sharps' in San Francisco could obtain reliable information of the decision of the court a few hours in advance of the others, there would be 'millions in it,' as the Americans say. A telegraph operator accordingly agreed to furnish one of the leading stockbrokers in San Francisco with the desired information; so, dressing himself as a gold 'prospector,' and taking a portable apparatus with him, he set off to the hills, and took up his quarters in a deserted hut near the line. He attached his instrument to the line by a loop of wire, so that the messages were diverted through his instrument, but not necessarily checked, as they passed on their way. By this plan he followed the development of the trial from the nature of the messages passing over the line. And when the final result came along, he connected his instrument to earth, and completely intercepted it by playing for the time the part of the receiving-operator at San Francisco. When he had done this, he took on himself the rôle of the Virginia City sending-operator, and sent the message on to San Francisco to the broker with whom he had arranged. By this piece of clever rascality he gained a fortune of twenty thousand dollars.

The troubles caused by the animal creation in primeval countries, and especially in the tropics, are of a more varied and curious character than those due to man. The termites or white ants, the curse of these regions, ruin the wooden posts in a very short time, and either posts impregnated with creasote or poles of iron have to be adopted, although at greater primary expense. In Java the wires are carried on the living *kapas* trees pruned of all their branches. Such is the vitality of the tree that the trunk continues to grow, putting out horizontal sprouts at its top, and the living pole is proof both against dry rot and termites. In India, the crows have been known to collect the odd ends of wires cut off in erecting a line, and build their nests between the posts and wires with them, thus destroying the insulation of the line. Similarly, wasps' nests, often dropped by birds of prey on the wires, monkeys playing at gymnastics, frequently cause a serious leakage of the current; and freaky elephants, rejoicing in the strength of their trunks, occasionally feed their vanity by uprooting dozens of poles right off. On the plains of the Far West, the shaggy bisons find a welcome scratching-post in the poles of the overland lines; and as bisons scratch with extraordinary vigour, they soon loosen the poles, and level them with the ground. An ingenious Yankee hit upon the idea of driving sharp spikes into the poles to keep the buffaloes

off; but what was his surprise when he found that they ever after selected the spiked posts as a currycomb, and left the plain ones alone. The large number of prairie hens killed by flying blindly against the wires has often been remarked by travellers. Even in England a similar fate occurs to sparrows, partridges, woodcocks, and other birds, numbers being annually killed by flying against the wires. Such haps as these should, however, be entered in the other side of the ledger, since it is the wires which inflict them on the animals.

Though the foregoing foes are at times exceedingly trying to the working power of the telegraph, they are simple compared with the ravages committed by the action of the elements. Their influence is ever at work, slowly and imperceptibly, or sudden and violent. The posts rot away in five or six years even in dry countries, unless preserved by impregnated creasote oil or other preservative. The wires rust in the open air, especially along railways and in cities, where steam and acid vapours corrode them rapidly. In some situations a wire will rust through in a few years; in others it will last for forty years. Lines along the sea-coast preserve well; but lines in the warm, humid tropics decay very quickly. Gales of wind often level dozens of poles at one swoop; and the tangle of wires falling across railways has been known to throw a train off the rails. During some of the severe sleet-storms of the northern United States and Canada, the wires and poles, burdened by the frozen sleet and strained by the blast, have given way over the whole track of the storm, and rendered it necessary to re-erect nearly two hundred miles of line. A mishap which is often brought about by high winds, in the forest tracts of America, but which also results from forest fires and natural decay, is the falling of trees across the wire, which either breaks it or levels the poles to the ground. Generally however, there is a track fifty feet wide cleared of trees and brush, for the line to run through, and the wire is loosely hung in the insulator so that it will yield to a falling tree and not break. In Brazil this track requires to be eighty feet wide and constantly lopped clear. When we consider the enormous amount of labour involved in this clearing on each side of tropical lines, together with the proposal recently made, to carry a land-line through Central Africa from Khartoum to the Cape Colonies, we may well shrink from the danger and expense of the undertaking.

We come now to the last and the least understood source of trouble to land telegraph lines, 'lightning' and 'earth currents,' those rushes of electricity in the air above or the earth beneath us. Until recent times a single lightning flash would destroy hundreds of telegraph-poles in this country; but now every pole is protected by a lightning-rod, which conveys the dangerous fluid to the ground. In America, however, where they do not uniformly protect their poles in this way, great numbers are still shivered in pieces by the discharge. In India, lately, on a line near Calcutta on which lightning-rods are not fixed to every post, some twenty posts were destroyed, and the solid porcelain insulators were shattered by the flash in passing from the wires to the posts, thus overcoming a resistance

equivalent to several million miles of telegraph-wire. 'Earth-currents,' as they are technically termed, are always traversing telegraph-wires in greater or lesser strength, but they are usually so feeble as not to interfere with the working of the telegraph instruments. They are sometimes caused by thunder-clouds in the atmosphere, and sometimes by some unknown cosmical influence. They frequently precede or accompany earthquakes, the aurora borealis, or disturbances of the earth's magnetism. On the evening prior to the Indian earthquake of December 14, 1872, the earth-currents were so powerful on some European lines as to stop all telegraphing for several hours. The Egyptian earthquake of January 12, 1873, was preceded for some days by strong earth-currents on the Valentia to London line. This earthquake was accompanied by an eruption of the Skaptar Jökul volcano in Iceland.

As the barometer foretells the approach of the storm, so does the galvanometer herald the aurora borealis. This telegraph instrument, which we have described in former articles, predicts magnetic storms and auroras by the earth-currents traversing the wires. Sometimes these currents are as strong as the current from a battery of two thousand Daniell-cells; and when we take into account the fact that only some twenty or thirty cells are necessary to work the instrument on an ordinary line, we can form an idea of the power of these usurping interlopers. They are rarely steady during an auroral display, but are perpetually changing in strength and sign every minute or two, in accordance it is believed with the fluctuations of the auroral streamers. During the great aurora of 4th February 1872, which was visible all over the northern hemisphere, the telegraph lines in every part of the world, cables and land-lines, were possessed by currents so powerful as to overcome all instrument work and interrupt the message traffic for hours. On the French Atlantic cable, sunk as it was at the bottom of the ocean, earth-currents were flowing all night equivalent to the current from ninety Daniell-cells. At Toronto the telegraph instruments for a long time were enveloped in a blaze of light, and sparks could be drawn from any part of the circuit. Most of the English lines stopped working from 4 P.M. 4th February, to 2 A.M. next morning.

These earth-currents, even when they are comparatively weak, play strange freaks with the telegraph instrument. Signals made by no human hands, are motioned; bells are rung; and inflammable material is ignited by their mysterious agency. When very powerful, as for instance during thunder-storms and auroras, they destroy the magnetism of the instruments, or fuse the metal-work, and sometimes set fire to the office. It is not uncommon for the spark caused by an earth-current to set fire to the cotton tape of the connecting wires within the office, and from this beginning the fire spreads.

The saddest mishaps of all which attend these intense earth-currents are the injuries to life and limb which sometimes take place, especially in America. Thunder-storms are often very violent there, and it is the custom to cut the instrument out of the line circuit on the approach of a storm, at the same time keeping the lightning-protectors on the line. These precautions are not always

taken in time however, and sometimes an operator gets a thumb or finger burned off by a great spark from his signalling-key, or is blinded and deafened by the shock. Every now and again one hears of operators being killed outright by the induced lightning-stroke proceeding from their apparatus; and perhaps the most melancholy of these was the case of Miss Lizzie Clapper, a young lady operator of Readville, United States, who, during a thunder-storm, was sitting at the window too near her apparatus, when the lightning leaped from the instrument to her neck, a distance of about a foot, and killed her instantaneously—a painless yet a dreadful death. Thus we see that the subtle fluid, to which we give the name of electricity, is an agent which, while it has been rendered subservient to man's convenience and even to his safety, is, when uncontrolled, fraught with terribly disastrous consequences.

CURIOUS HABITS OF AMERICAN ANTS.

THE Rev. H. C. McCook, an American entomologist, has made a series of observations on the social and domestic economy of various species of American ants. His enthusiasm in behalf of his industrious friends is so great that he actually pitched his tent in the midst of the huge mounds of certain species in one of the western states, and had to engage a small army of three men to drive off the attacks of the indignant insects while he was studying the interior arrangements of their elaborately constructed houses.

The agricultural ant—and the remark applies to all other ants of which Mr McCook has knowledge—is one of the neatest of creatures in its personal habits. He thinks he never saw one of his imprisoned harvesters in an untidy condition. They issue from their burrows after the most active digging, even when the earth is damp, without being perceptibly soiled. Such minute particles of dirt as cling to the body are carefully removed. Indeed the whole body is frequently and thoroughly cleansed, a duty which is habitually attended to after eating and after sleep. In this process the ants assist one another, which makes the general 'washing-up' an exceedingly curious sight to witness. In order to observe their habits closely and at his leisure, Mr McCook took home with him a collection of what are termed agricultural ants; and the observations he made with regard to their 'toilet habits,' as he calls them, are exceedingly curious and interesting.

In the evening, when the lamp on Mr McCook's table was lit, he had leisure to watch his insect friends in the act of cleansing each other, the operation being conducted as follows: The ant to whom the friendly office is being administered—the cleansed, she may be called—is leaning over upon one side as the observation begins. The cleanser—as we may name the other party—is in the act of lifting the foreleg, which is licked, then the prothorax, then the head, after which the cleanser leaves the cleansed to operate upon herself. This process may be seen throughout the entire group of assembled ants. Take another couple; the cleanser has begun at the face, which is licked thoroughly, even the mandibles or jaws being cared for, they being held

apart, for convenient manipulation. From the face the cleanser passes to the thorax or middle part of the body, thence to the haunch, and so in the same manner along the first, second, and third legs; next around to the abdomen, and thence up the other side of the ant to the head. A third ant may approach and join in the friendly task, but soon abandons the field to the original cleanser. The attitude of the cleansed all the time is one of intense satisfaction, quite resembling that of puss when one is scratching the back of her head. The insect stretches out her limbs, and as her friend takes them successively in hand, yields them limp and supple to her manipulation; she rolls gently over upon her side, even quite over upon her back, and with all her limbs relaxed, presents a perfect picture of muscular surrender and ease. The pleasure which the creatures take in being thus 'combed' and 'sponged' is, we can readily believe, really enjoyable to the observer. Mr M'Cook had seen an ant kneel down before another, thrust forward the head, drooping, quite under the face, and remain there motionless; thus expressing as plainly as sign-language could, her desire to be cleansed. The supplicated ant quite understood the gesture, for she at once went to work. If analogies in nature-studies were not so apt to be misleading, one might venture to suggest that our insect friends are thus in possession of a modified sort of emmetonian Turkish bath.

The acrobatic skill of the ants, which had often furnished Mr M'Cook amusement, was fully shewn one morning in these offices of ablution. The box containing an ant's nest was taken from his study, where the air had become chilled, and placed in an adjoining room upon the hearth, before an open grate fire. The genial warmth was soon diffused throughout the nest, and aroused the occupants to unusual activity. A tuft of grass in the centre of the box was presently covered with them. They climbed to the very top of the blades, turned around and around, hanging by their paws, not unlike gymnasts performing upon a turning-bar. They hung or clung in various positions, grasping the grass blade with the second and third pairs of legs, which were spread out at length, cleaning their heads with their fore-legs, or bending underneath to comb and lick the abdomen. Among these ants were several pairs, in one case a triplet, engaged in the cleansing operation above described. The cleanser clung to the grass, while the cleansed hung in a like position below, and reached over and up, submitting herself to the pleasant process. As the progress of the act required a change of posture on the part of both insects, it was made with the utmost agility.

The ants engaged in cleaning their own bodies have various modes of operating, all very curious, but which space prevents us from detailing.

Mr M'Cook made a series of experiments upon two species of ants, as to the mode of recognising each other, and distinguishing fellow formicarians from congeners of alien nests. It seems there is a kind of ant very common in many American towns popularly known as 'Pavement ants.' Early in the spring, he tells us, as soon as the season has gathered a comfortable degree of warmth, the insects are seen issuing from the gravel or soil of garden-walks, or from the earthen

seam that binds together the bricks of the pavement. The chief characteristic of these ants, not unlike their fellow-creatures of the genus *homo*, is their martial instinct. Hundreds, even thousands of them may often be seen waging battle with great ferocity and persistence. One battle, Mr M'Cook tells us, which was waged close by the wall, within the inclosure of a church in Philadelphia, was prolonged for a period of two weeks and several days. At least the same spot, during that period, whenever observed shewed always the same phenomenon of a battle-field, the combatants of which were apparently the same. Two points have arisen concerning these Amazonian emmets—for they are veritable Amazons, the warriors being composed wholly of workers or neuters, which are undeveloped females.

First, why do they fight at all? They are of one species, apparently of one formicary or nest. Their very first act, according to Mr M'Cook, upon issuing from winter-quarters, is to engage in this war, which is often well-nigh a war of extermination on both sides. Frequently throughout the season, these hostilities are renewed. If the individuals be of one formicary, Mr M'Cook suggests that this is Nature's mode of either distributing the species from the home-centre, by causing the worsted party to emigrate; or, if the combatants be of separate, adjoining communities, a process by which the surplus population is reduced and kept within bounds, much to the future comfort of the survivors, and more to the satisfaction of man. This, of course, is only conjecture.

A second question, even more interesting and more perplexing, Mr M'Cook asks, and tries to answer—namely: How do the combatants recognise friend from foe? They are all alike, indeed even more alike 'than peas in a pod,' as the proverb goes. Take a group of combatants into the hand, put them under a magnifier, and the most careful observer will not note the slightest difference between the individuals of the two factions. Yet do they infallibly distinguish between the parties, recognising at once members of their own formicary, and with equal certainty those of the enemy. While watching an ant-battle, according to Mr M'Cook, individuals will frequently be observed running to and fro, challenging, by certain movements of their antennæ, all whom they meet. As one ant meets another, these organs touch and embrace the face; if the parties be friends, they pass on; if foes, they straightway interlock mandibles and 'fall to.' Here we will see many scores of ants struggling together in a heap that is chaos to mortal eyes, but which seems to the tiny combatants to present no difficulties in the way of recognition. Smaller groups are scattered over the battle-field, often aggregated as follows: two individuals in combat are joined by a third, who applies her antennæ, distinguishes the enemy, and falls upon her. A fourth, fifth, many other ants, will sometimes be found massed upon one poor warrior, who is literally being torn limb from limb. Other groups are composed of several members of one faction and many of another.

It occurred to Mr M'Cook that this recognition was based upon a certain odour which in different degrees of intensity is emitted by the respective factions; or, which seems less likely, upon the presence in the individuals of two

distinct odours. This degree of odour, or difference in odours, he supposed might be dependent upon some temporary difference in the physical condition, age, or environment of the antagonists. Supposing that there were any basis of truth in this theory, it further occurred to him that the presence of an artificial and alien perfume of sufficient strength to neutralise the distinctive animal odours, or degrees of odour, and surround the combatants with a foreign and common odour, would have the tendency to confuse the ants and disturb or destroy their power of recognition. In which case he conjectured that the result might be their pacification and reconciliation. He therefore made the following experiments.

First, he collected a number of combatants from a battle which was being fought upon a flower-border, close to a fence, at his residence, and placed them together in a glass jar upon some soil. He shook the jar vigorously several times, so that, if possible, the mechanical agitation might separate the combatants. The ants emerged from the soil and continued the fight. When the surface of the earth was well covered with them, and the battle was again at its height, Mr M'Cook introduced into the jar a pellet of paper saturated with eau de Cologne. The effect was instantaneous. The ants shewed no signs of pain, displeasure, or intoxication; indeed, some ran freely over the paper. In a very few seconds the warriors had unclasped mandibles, released their hold of enemies' legs, antennæ, and bodies, and after a momentary confusion, began to burrow galleries in the earth with the utmost harmony. On the part of some there was the appearance of their escaping from the artificial odour; but there was no renewal of battle. The quondam foes dwelt together for several days in absolute unity and fraternity, amicably feeding, burrowing, and building. Thus the perfume of Cologne proved an eminent pacificator of the contending emmets, and so far verified Mr M'Cook's theory.

A second experiment was tried in another glass jar, with a like result. There was one exception; two ants continuing to fight after the perfume was introduced. After closer examination, Mr M'Cook found that one of them was nearly dead, and was holding fast an antenna of her enemy with a death-grip, from which escape was impossible. Three days after this he decanted the contents of this jar, ants and soil, into jar No. 1, and the two parties fraternised completely.

A third experiment was made. A large number of the warring ants had been lifted into a box, partly filled with soil, which communicated by a glass tube with a smaller box. The larger box was about ten inches long, and eight inches in depth and width; both boxes had sliding glass covers. The original purpose was to observe the battle at leisure, determine how long the creatures would fight, and also if eventually the parties might not separate, and the defeated retreat to the smaller box. However, Mr M'Cook concluded to follow up the above observations, and abandoning his original purpose, introduced Cologne as before into that end of the box in which the combatants were principally engaged. The same effect followed. In less than two minutes every sign of hostility had ceased, except in the case of two pairs in that end of the box, and of one small group and two single combatants in the opposite end. The two

pairs proved to be in conditions similar to the exception above noted, and a small pellet of perfumed paper dropped in the opposite end of the box dispersed the warriors there. Previous to this, occasional stragglers had passed along the connecting tube into the smaller box. Most of them seemed to be of one faction, only one of the opposition having entered, upon whom six or eight ants were expending their wrath. This was the only remaining centre of strife when Mr M'Cook replaced ants and earth upon their native territory. The battle was continuing there, between greatly diminished numbers of course, after the removal of the large battalions into the box; but the application of a feather dipped in eau de Cologne to the neighbourhood of the warriors caused the instant cessation of strife.

Mr M'Cook next directed attention to the large Pennsylvania Carpenter ant, and made a series of experiments of the same nature as the above. In his study he had an artificial formicary of these insects, which had been sent to him from the Alleghany Mountains. The ants had been taken from a branch of an oak-tree in mid-winter, and were sent frozen up within a section of the formicary. This section was about one foot in length and seven inches in diameter. The most of the ants were removed from the nest and placed in a glass bottle, to all appearance quite dead. On entering his study the following morning, Mr M'Cook was surprised to find that the ants had revived in the heat of the room, had cut a clean tubular hole through the cork, and were crawling over the lips and sides of the bottle, just ready for an emigration. They were deposited in a large glass jar, and were the subject of various experiments, until the death of the queen, eight months thereafter. Among these were the following, by way of testing the theory above stated concerning the recognition of alien ants. First, Mr M'Cook placed in the formicary, which at the time consisted of a piece of the original branch-nest planted upon several inches of soil, some individuals of the same species taken from trees in Philadelphia. These were instantly attacked, and were beheaded, that being the favourite mode of dealing with aliens among these Pennsylvania carpenter ants. Individuals—still alien, but of the same species—were then thoroughly covered with the perfume of eau de Cologne and put into the formicary. They too suffered decapitation. Individuals were then taken from members of the formicary, subjected to the Cologne fumigation, and restored to the nest. They were welcomed home unharmed. The whole formicary was then strongly perfumed by means of cotton pellets soaked in the perfume, and alien ants of the same species, which had been treated in the same way, were put into the midst of their mountain congeners. The result which had followed in the previous experiments appeared once more. The intruders were not attacked with quite the same promptness; but in the end they were brought to the mandibular guillotine, and their carcasses deposited in, or rather on, the cemetery which these insects are nearly always sure to establish when there are numerous deaths among them or on their premises.

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